FORSPAN ASSESSMENT MODEL FOR CONTINUOUS ACCUMULATIONS-BASIC INPUT DATA FORM (NOGA, Version 7, 6-30-00)

IDENTIFICATION INFORMATION

As	sessment Geologist:	R.C. Johnson	and T.M. Finn		D	ate:	8/22/2002
Re	gion:	North America	a		N	lumber:	5
Pro	ovince:	Southwestern	n Wyoming		N	lumber:	5037
To	tal Petroleum System:.	Mesaverde-La	ance-Fort Union Co	mposite	N	lumber:	503706
	sessment Unit:	Mesaverde C	oalbed Gas		N	lumber:	50370681
Ва	sed on Data as of:						
No	tes from Assessor	Analog: Mes	averde Coalbed Ga	s of the eastern po	ortion of SW	Wyoming F	Province
		CHAR	ACTERISTICS OF	ASSESSMENT III	NIT		
		OHAR	ACTEMICTION	ACCECOMENT OF	1411		
	sessment-Unit type:				Gas		
	nat is the minimum tot			(mmbo for oil A	A.U.; bcfg fo	r gas A.U.)	
	mber of tested cells:		<u> </u>				
	mber of tested cells with				0		
ESI	ablished (>24 cells > min.) Fr	ontier (1-24 cells)	A Lichafa for an	lypothetical (no cells)	X
IVIE	edian total recovery per				A.U.)	Ord Ord	
		1st 3rd disc		2nd 3rd		3rd 3rd	
As	sessment-Unit Probab	oilities:					
	<u>Attribute</u>		<u> </u>	Probability of occu	rrence (0-1.	<u>0)</u>	
	CHARGE: Adequate pe	•			-		1.00
	ROCKS: Adequate rese				· —		1.00
3.	TIMING: Favorable geo	logic timing for	an untested cell with	h total recovery <u>></u> r	minimum		1.00
_			" (D) (() ()	1.0)		4.0	
As	sessment-Unit GEOLC	JGIC Probabili	(Product of 1, 2,	and 3):	····· –	1.0	
4	ACCESS: Adequate loc	ation for neces	sarv netroleum-relat	ed activities for an	n untested c	اا	
т.,			m				1.0
	With total 1000						
	NO. OF UNTESTED C	ELLS WITH PO	OTENTIAL FOR AD	DITIONS TO RES	SERVES IN	THE NEXT	30 YEARS
1	Total assessment-unit	area (acres): (uncertainty of a five	d value)			
١.	Total assessment-unit	alea (acies). (minimum 311,00	,	327 000	maximum	343,000
			1111111111111 <u>311,00</u>	<u> </u>	327,000	maximum	343,000
2.	Area per cell of unteste	ed cells having	potential for addition	ns to reserves in n	ext 30 years	s (acres):	
	(values are inherently	_	•		,	,	
	calculated mear	n 129	minimum 40	median	120	maximum	280
							_
3.	Percentage of total ass	sessment-unit a		` ' `	of a fixed v	,	
			minimum 100	median	100	maximum	100
1	Porcontago of untosta	d accomment :	unit area that has as	tontial for addition	o to recent	oc in	
4.	Percentage of untested next 30 years (%): (a		·			3 III	
	(uncertainty of a fixed	-	minimum 1	median	10	maximum	20
	(differentiality of a fixed	value)			10	παλιπαπ	

TOTAL RECOVERY PER CELL

Total recovery per cell for untested cells having po (values are inherently variable)	tential for addition	ons to reserv	es in next	30 years:	
(mmbo for oil A.U.; bcfg for gas A.U.) minimum	m <u>0.02</u>	median _	0.06	maximum _	2
AVERAGE COPRODUCT RATIOS FO (uncertainty Oil assessment unit: Gas/oil ratio (cfg/bo)	of fixed but unk minimum			COPRODUCT	S maximum
NGL/gas ratio (bngl/mmcfg)		_	0	-	0
SELECTED ANCILLA (values Oil assessment unit: API gravity of oil (degrees)	are inherently v		D CELLS median	- - -	maximum
Gas assessment unit: Inert-gas content (%) CO ₂ content (%) Hydrogen-sulfide content (%) Drilling depth (m) Depth (m) of water (if applicable)		- - - -	4.00 6.70 0.00 1200	- - - -	20.00 27.00 0.00 1800
Success ratios: calculated mean Future success ratio (%) 48 Historic success ratio, tested cells (%)	minimum 10	_	median 50	-	maximum 65

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO STATES

Surface Allocations (uncertainty of a fixed value)

1. Colorado	_represents_	1.81	areal % of the assess	ment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			1	
2. Utah	_represents_	5.61	areal % of the assess	ment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			<u>3</u> 0	
3. Wyoming	_represents_	92.59	areal % of the assess	ment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			<u>96</u> 0	
4	_represents_		areal % of the assess	ment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				

5	represents	areal % of the assessment unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
6	represents	areal % of the assess	sment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
7	represents	areal % of the assess	sment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%) Gas in gas assessment unit:	minimum	median	maximum	
Volume % in entity Portion of volume % that is offshore (0-100%)				
8	represents	areal % of the assess	sment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO LAND ENTITIES Surface Allocations (uncertainty of a fixed value)

Federal Lands	_represents_	62.91	_areal % of the assessment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			80	
2. Private Lands	_represents_	30.62	_areal % of the as	sessment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum ———
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			<u>15</u> 0	
3. Tribal Lands	_represents_		areal % of the as	sessment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
4. Other Lands	_represents_	0.34	areal % of the as	sessment unit
Oil in oil assessment unit: Volume % in entity	minimum		median	maximum
Portion of volume % that is offshore (0-100%)				

5. CO State Lands	_represents	0.37	_areal % of the assessm	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			0	
6. UT State Lands	_represents	0.45	_areal % of the assessm	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			0	
7. WY State Lands	_represents	5.32	_areal % of the assessm	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			5	
8	_represents		_areal % of the assessm	ent unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				

9	represents areal % of the assessment		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median 	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
10	represents	areal % of the assess	ment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
11	represents	areal % of the assess	ment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%) Gas in gas assessment unit:	minimum 	median	maximum
Volume % in entity			
12	represents	areal % of the assess	ment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity			
Portion of volume % that is offshore (0-100%)			

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO FEDERAL LAND SUBDIVISIONS Surface Allocations (uncertainty of a fixed value)

Bureau of Land Management (BLM)	_represents_	60.27	areal % of the ass	sessment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			76.80 0	
2. BLM Wilderness Areas (BLMW)	_represents_		areal % of the ass	sessment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
3. BLM Roadless Areas (BLMR)	_represents_		_areal % of the ass	sessment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
4. National Park Service (NPS)	_represents_	0.13	areal % of the ass	sessment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			<u> </u>	

5. NPS Wilderness Areas (NPSW)	_represents	areal % of the as	sessment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
6. NPS Protected Withdrawals (NPSP)	_represents	areal % of the as	sessment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
7. US Forest Service (USFS)	_represents	2.51 areal % of the as	sessment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)		3.20	
8. USFS Wilderness Areas (USFSW)	_represents	areal % of the as	sessment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			

9. USFS Roadless Areas (USFSR)	represents	areal % of the assessment unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
10. USFS Protected Withdrawals (USFSP)	represents	areal % of the assessr	nent unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
11. US Fish and Wildlife Service (USFWS)	represents	areal % of the assessr	nent unit	
Oil in oil assessment unit: Volume % in entity	minimum 	median 	maximum	
Portion of volume % that is offshore (0-100%)				
12. USFWS Wilderness Areas (USFWSW)	represents	areal % of the assessr	nent unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				

13. USFWS Protected Withdrawals (USFWSP)	represents	areal % of the assessment unit	
Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity			
Portion of volume % that is offshore (0-100%)			
Gas in gas assessment unit:			
Volume % in entity			
Portion of volume % that is offshore (0-100%)			
14. Wilderness Study Areas (WS)	represents	areal % of the assessr	nent unit
Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity			
Portion of volume % that is offshore (0-100%)			
Gas in gas assessment unit:			
Volume % in entity			
Portion of volume % that is offshore (0-100%)			
15. Department of Energy (DOE)	represents	areal % of the assessr	nent unit
Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity			
Portion of volume % that is offshore (0-100%)			
Gas in gas assessment unit:			
Volume % in entity			
Portion of volume % that is offshore (0-100%)			
16. Department of Defense (DOD)	represents	areal % of the assessr	nent unit
Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity			
Portion of volume % that is offshore (0-100%)			
Gas in gas assessment unit:			
Volume % in entity			
Portion of volume % that is offshore (0-100%)			

17. Bureau of Reclamation (BOR)	represents	s areal % of the assessment unit		
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median 	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
18. Tennessee Valley Authority (TVA)	represents	areal % of the assess	ment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum 	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
19. Other Federal	represents	areal % of the assess	ment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)				
20	represents	areal % of the assess	ment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum	
Gas in gas assessment unit: Volume % in entity				
Portion of volume % that is offshore (0-100%)				

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO ECOSYSTEMS Surface Allocations (uncertainty of a fixed value)

Greater Green River Basin (GGRV)	_represents_	43.24	_areal % of the assessment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			48 0	
Overthrust Mountains (OVMT)	_represents_	41.85	_areal % of the as	sessment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum		median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			50	
0 10 4 14 4 4 4 4 4 4 17 14 17 14 17 1		ents 14.91 areal % of the assessment unit		
Uinta Mountains (UTMT)	_represents_	14.91	_areal % of the as	sessment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	_represents_ minimum	14.91	_areal % of the as: median 	sessment unit maximum
Oil in oil assessment unit: Volume % in entity		14.91	_	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%) Gas in gas assessment unit: Volume % in entity		14.91	median	maximum
Oil in oil assessment unit: Volume % in entity	minimum	14.91	median	maximum

5	represents	areal % of the assessment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
6	represents	areal % of the assessment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
7	represents	areal % of the assessment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
8	represents	areal % of the assessment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			

9	represents areal % of the assessment unit		ment unit
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median 	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
10	represents	areal % of the assessment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
11	represents	areal % of the assessment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
12	_represents	areal % of the assessment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO LAND ENTITIES Subsurface Allocations (uncertainty of a fixed value)

Based on Data as of:			
All Federal Subsurface	_represents	areal % of the assessment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			
Other Subsurface	_represents	areal % of the assessment unit	
Oil in oil assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)	minimum	median 	maximum
Gas in gas assessment unit: Volume % in entity Portion of volume % that is offshore (0-100%)			